

## **REMARKS**

Claims 1-22 and 24-43 are pending in the application, claim 23 being canceled and claims 41-43 being newly added herein. Claims 1, 2, 9, 10, 19, and 24 are the only independent claims.

### ***Claims Rejections - 35 U.S.C. § 112***

Claim 23 was stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner specifically maintains that there is insufficient antecedent basis for the limitation “said extractor” in the claim.

In response to the rejection of claim 23 under 35 U.S.C. § 112, second paragraph, that claim has been canceled.

### ***Claims Rejections - 35 U.S.C. §§ 102 and 103***

Claims 1-3, 8-11, 16, and 18 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,933,954 to Petry.

Claims 19, 20, 24, 25, 30, 31, and 35 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,412,690 to Kotzin et al. (“Kotzin”).

Claims 5, 6, 13, and 14 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Petry in view of Kotzin.

Claims 26 and 27 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kotzin.

Claims 34 and 36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kotzin in view of Petry.

The Examiner has indicated that claims 4, 7, 12, 15, 17, 21-23, 28, 29, 31-33, and 37-40 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claims.

**Claim 1** In response to the rejection of claim 1 under 35 U.S.C. § 102(b) as being anticipated by Petry, applicants have amended claim 1 herein to provide a better definition of the invention. Applicants respectfully maintain that claim 1 distinguishes the invention over the prior art and particularly over the art relied on by the Examiner in rejecting the claims of the instant application.

Applicants particularly amend claim 1 herein to recite that the signal detector operatively connectable to the wideband receiver is configured for detecting the presence of a plurality of signals received simultaneously by the wideband receiver.

Applicants' specification on page 9, line 25 to page 10, line 6 and on page 19, line 15 to line 24 accurately describes the teachings of Petry. Petry relates only and particularly to the case of a *single* frequency hopping signal (i.e., from a single emitter) present in a wideband receiver output at any given time. *The device of Petry does not and cannot work for the case of two or more signals present at the same time*; and hence applicant's invention as set forth in amended claim 1 is novel and unobvious over the teachings of Petry.

**Claim 9** Claim 9 has been amended to recite the analyzing of a wideband signal output of a wideband receiver to detect the presence of a plurality of signals in the wideband signal output. Petry does not teach and cannot teach or suggest an analysis of a wideband signal output of a wideband receiver to detect *the presence of a plurality of signals* in the wideband signal output. Petry system can work only for one signal.

**Claims 2 and 10** Applicants have amended claims 2 and 10 to make them independent and respectfully traverse the rejection of those claims under 35 U.S.C. § 102(b) as being anticipated by Petry

Contrary to the position taken by the Examiner, *Petry does NOT disclose or teach generating a time-frequency representation of said wideband signal output.* Rather, the Petry reference teaches the use of an FFT search receiver that determines the instantaneous frequency occupied at a particular time (predetermined time window). Petry's use of an FFT is one-dimensional (frequency only). As set forth in claims 2 and 10, applicants' use of a time-frequency representation is two-dimensional (time and frequency) and has several performance benefits as a result. Therefore, claims 2 and 10, as well as the claims dependent therefrom, are allowable over the prior art and particularly over Petry.

**Claim 19** In partial response to the rejection of claim 19, that claim has been amended herein to recite that the signal detection component is operatively connected to the digital filter bank for analyzing the time-frequency representation to detect presence of *at least one unknown* signal.

Applicants respectfully disagree with the Examiner's interpretation of the Kotzin reference (US Patent No. 5,412,690). Kotzin produces a communicator unit, not an intercept and analysis unit, and uses a digital filter bank that is *not* coarsely sampled or decimated. The bank is used for a different purpose (which is to recombine composite digitized signals from their sub-band components output from filters within the bank). The times, frequencies and bandwidths of the signals are *known* to the receiver; no detection of *unknown* signals is performed. Digital filter banks are state of the art;

applicants are not trying to claim them. However, applicants are claiming a *coarsely sampled* filter bank used to detect *unknown* (in time and frequency) signals. Therefore claims 19 and 24, and their respective dependent claims are allowable over the prior art and particularly over the teachings of Kotzin.

***Conclusion***

For the foregoing reasons, independent claims 1, 2, 9, 10, 19, and 24, as well as the claims dependent therefrom, are deemed to be in condition for allowance. An early Notice to that effect is earnestly solicited.

Should the Examiner believe that direct contact with applicant's attorney would advance the prosecution of this application, the Examiner is invited to telephone the undersigned at the number below.

Respectfully submitted,

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